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ABSTRACT

The Educational Resources Information Center (ERIC) is one of the major bibliographic databases in the world. The ERIC Clearinghouse on Tests, Measurement, and Evaluation (ERIC/TM) contributes to this database by acquiring, selecting, and processing documents pertaining to all aspects of testing, evaluation, and learning theory. The ERIC/TM has become a vital resource within its area of expertise. The scope of the ERIC/TM includes tests and other measurement devices, and documents that discuss such instruments; methodology of measurement and evaluation; evaluation of programs, projects, and procedures; research design and methodology; human development; and learning theory. Improvements needed by the ERIC system are: (1) serving a wider audience within the educational community; (2) expanding dissemination activities for this audience; (3) collaborating more closely with existing systems and networks; and (4) controlling quality. Recent improvements to the ERIC/TM have been in the areas of improved document acquisition and processing; better quality and more relevant products; and improved dissemination of information. The ERIC/TM is establishing a structure to make all these activities possible; the cooperation and involvement of the measurement community is essential. (SLD)

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ERIC/TM -- A Growing Resource

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ERIC/TM -- A Growing Resource

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Since its inception in 1966, the Educational Resources Information Center (ERIC) has become one of the major bibliographic databases in the world. ERIC has acquired, reviewed, and processed more than one-half million citations that policymakers, program planners, researchers, and other users can readily identify and obtain.

With ERIC, people can identify a host of citations that potentially meet their needs by using

- dial-up information services, such as Dialog, BRS, and SDC;
- the CD-ROM systems of ERIC, such as Silverplatter, OCLC, and OnDisc; and
- printed catalogues of abstracts.

ERIC users can review abstracts, order microfiche, order complete documents, or examine microfiched documents in any of over 750 locations in the United States and 92 foreign countries.

As the major bibliographic database for education, ERIC has become a vital resource for research, policy, and practice. The ERIC Clearinghouse on Tests, Measurement, and Evaluation (ERIC/TM) contributes to this database by acquiring, selecting, and processing documents that pertain to all aspects of testing, evaluation, and

learning theory. As with the larger ERIC system, ERIC/TM has become a vital resource within its area of expertise.

Because ERIC is a mature system, its growing pains are in the distant past. ERIC provides valuable services by continuing to do well what it has always done. But this does not mean that there are no opportunities for improvement or for doing new things. Despite ERIC/TM's record as a vital resource, major innovations and improvements can and should be made. ERIC/TM must be on the leading edge of developments in the areas of its interests. Maturity need not inhibit further development; it can be a foundation on which to build new and valuable products and services.

No revolution is called for; rather, the need is for improvements in document acquisition and processing and for new and creative dissemination activities, as called for by Bencivenga (1987), Parsons (1986), and others. This paper describes problems confronting the ERIC system and recent enhancements to ERIC/TM. We hope that this paper will prompt others to communicate their ideas about ways in which ERIC can better serve the educational community. We begin with some background on the history of ERIC, components of ERIC, and the role of ERIC/TM.

An Overview of ERIC

A Brief History of ERIC

When ERIC was started, the first objective was to collect and catalogue unpublished literature that was not generally available to researchers, policymakers, and practitioners. ERIC was based on two predecessors -- the National Technical Information Service (NTIS) and the Defense Technical Information Center (DTIC). These organizations were established during and shortly after World War II. They were created to handle the flood of domestic and foreign technical reports that were beyond the scope of conventional libraries.

The original impetus for ERIC was the government's need to track its projects. In the 1960's, the Department of Health, Education and Welfare funded numerous research studies, exemplary programs, and demonstration projects. These projects often ended witn final reports that were filed in government cabinets, thus limiting access to them. Because the results of these studies were not widely disseminated, the government periodically funded projects that reinvented earlier studies (Hoover and Brandhorst, 1982).

Between April 1964 and March 1966, ERIC began storing documents in the same way that a traditional library stores documents. During this period, documents were microfiched and the ERIC Document Reproduction Service began. It was also during this period that the ERIC system was designed (Trester, 1981).

During 1966, the government granted contracts to create a central editorial and computer facility and 12 clearinghouses. Also during 1966, the first thesaurus was developed and the first abstract journal (*Research in Education*) was printed. During the following year, six more clearinghouses were added to the system and the word "Research"in ERIC was changed to "Resources." In 1968, ERIC clearinghouses began producing their first Information Analysis Products.

The systematic acquisition, abstracting, and cataloguing of unpublished literature pointed to the need to do the same with published educational literature. In 1969, the *Current Index to Journals in Education* (CIJE) began to be published.

The final major component of the ERIC system, private-sector database vendors, was added in 1972. Lockheed established the DIALOG on-line retrieval system with ERIC as its first file. Since that time, DIALOG has been quite successful. ERIC is one of its most frequently searched databases, and it retains its position as the first file in the system. ERIC is also now available on several other on-line systems as well as on compact disk (CD-ROM).

By the end of 1972, all of the basic acquisition and processing components of the ERIC system were in place. Most of the significant changes in the ERIC system since then have been refinements in procedures, products, and focus. For more information, see *A Cumulative List of Significant Changes in the ERIC System 1966-1985*, compiled by the ERIC Processing and Reference Facility, February 1986.

ERIC Today

Today, ERIC performs the following functions:

- **Acquiring documents** -- ERIC has established a nationwide network to obtain copies of virtually all significant documents related to education.

- **Selecting and screening documents** -- ERIC follows detailed guidelines to achieve quality control. ERIC selects approximately one document from every three that it acquires.

- **Cataloguing, indexing, and abstracting** -- ERIC's documents receive detailed document descriptors and abstracts.

- **Developing a thesaurus (lexicography)** -- All ERIC components contribute to developing and refining the

ERIC Thesaurus, the authority list used in indexing and searching.

- **Generating and maintaining a database** -- ERIC abstracts and descriptors are compiled into a database that is available at a nominal charge.

- **Producing journals of abstracts** -- ERIC publishes two monthly journals of abstracts, *Resources in Education* and *Current Index to Journals in Education*.

- **Developing information analysis products** -- All ERIC clearinghouses produce information analyses that synthesize information on a specific issue.

- **Delivering documents** -- ERIC arranges for its documents to be microfiched and reproduced in hard copy.

- **Creating public awareness** -- ERIC staff participates in a wide range of professional meetings to make the system, its products, and its services more widely known.

- **Helping users** -- All clearinghouses provide user services in the form of searches, workshops, and responses to inquiries.

- **Providing technical assistance** -- ERIC staff regularly provides technical assistance to organizations, such as state and foreign governments, who are interested in aspects of the ERIC system.

ERIC's Components and their Interrelationships

The ERIC system is well known and used. Of the 300 databases that Dialog Information Services offers, ERIC has become one of the most frequently accessed. In 1983, the References and Adult Services Division of the American Library Association voted ERIC as the most helpful on-line database.

ERIC has achieved this stature because it uniquely joins the federal government with private enterprise and subject-matter experts. The main components of the ERIC system are:

- **central ERIC**, which establishes policy and administers the entire system,
- **16 clearinghouses**, which acquire and prepare documents,
- **the ERIC Processing and Reference Facility**, which prepares the ERIC database,
- **the ERIC Document Reproduction Service (EDRS)**, which makes microfiche and hard copy available, and
- **database vendors**, who add information retrieval systems or print materials and make the database commercially available.

The federal government spends approximately $5 million a year for the clearinghouses and the ERIC Facility. This federal investment, in turn, supports $136 million of activities (Heinmiller, 1981). The government does not fund EDRS or the database vendors. Rather, it awards no-cost-to-the-government contracts for document reproduction and publication of CIJE, and it encourages on-line database vendors to include the ERIC database in their systems. These agencies provide services and market products to users to cover their costs and make a profit.

Central ERIC (CERIC)

Central ERIC contains fewer than 15 people within the Information Services Program of the Office of Educational Research and Improvement (OERI). CERIC develops the statements of work, lets the contracts, selects contractors, funds the operations of the contractors, and monitors the contracted work for quality, timeliness and completeness. CERIC establishes all basic policies and directions for the system.

Clearinghouses

Materials are acquired and prepared for inclusion in the ERIC system by a network of 16 specialized clearinghouses. These clearinghouses acquire and process educational literature, serve user needs, and create information products pertaining to defined scopes of interest.

These clearinghouses are responsible for:

- identifying, acquiring, and selecting significant and timely literature within their fields;
- processing selected items for entry into the ERIC system by cataloguing, indexing, and abstracting documents;
- staying aware of current trends in their fields;
- preparing summary materials and state-of-the-art papers for policymakers, program planners, researchers, and practitioners;

- furnishing users with services and products; and

- establishing and using effective dissemination strategies.

Details of the issues involved in meeting these responsibilities are provided later in this paper.

ERIC Processing and Reference Facility

The ERIC Facility is a central editing and computer processing facility that coordinates acquisitions, editorial activities, document control, lexicography, data entry, computer processing, and reference services for the entire ERIC system.

While the clearinghouses acquire documents within their scope of interest, the Facility receives all federal acquisitions and sends them to the appropriate clearinghouse for processing. In addition, the facility coordinates clearinghouse acquisitions in order to reduce duplication of efforts.

To help ensure uniformity across clearinghouses, the Facility subjects all incoming records to a standard editorial review, correcting typographical and spelling errors, ensuring the presence of all mandatory data fields, validating index terms against the authority lists, checking correctness of cataloguing, and identifying and resolving duplicate submissions from different clearinghouses.

The Facility provides control for all ERIC documents. This includes providing standard data input forms, thesaurus input forms, reproduction releases, and disclaimer labels, printing and stocking a variety of systemwide brochures and directories, and assigning document numbers.

The Facility coordinates the development and refinement of the ERIC Thesaurus and the Identifier Authority List.

The ERIC computer system is used for compiling and refining resumes, thesaurus files, and Source Authority List files, and for preparing photocompositions. All these functions are performed by the Facility.

Finally, the Facility is heavily involved in responding to inquiries concerning the ERIC system, typically processing from 8,000 to 12,000 letters per year (Hoover and Brandhorst, 1982).

ERIC Document Reproduction Service (EDRS)

While the clearinghouses provide abstracts to various documents, EDRS provides users with access to the documents themselves. The EDRS contract is awarded by CERIC to the contractor who provides the lowest cost to the public.

The EDRS contractor microfiches the documents after they have been processed by the clearinghouses and the ERIC Facility. There are now about 700 ongoing subscriptions to the ERIC microfiche collection. During a typical year, EDRS will distribute over 10 million microfiche.

The EDRS contractor is also required to make hard copy reproductions available. Annual on-demand orders amount to about 50,000 reproductions.

Database Vendors

There are two forms of ERIC database vendors: CIJE, which is published by the private sector, and commercial information services which provide computerized search and retrieval functions.

While RIE is published by the Government Printing Office, CIJE is published by a contractor at no cost to the government. The publisher incurs the costs of printing, publishing, and marketing CIJE and recovers these costs on subscriptions.

Information services obtain the ERIC database, add value in terms of search and retrieval systems, and market the system. Currently ERIC is available on-line from BRS and Dialog, and in a CD-ROM version from Silverplatter, OCLC, and Dialog.

ERIC/TM Clearinghouse

As a clearinghouse, ERIC/TM performs all the functions listed under "Clearinghouses" above. ERIC/TM's scope of interest covers:

- **Tests or other measurement devices and documents whose major purpose is confined to discussions of such instruments.** Such documents might announce the availability of an instrument, describe its characteristics, outline its development, explore its reliability and validity, provide a critical review, summarize recent developments in the use of the measure, or explain how it could be used more effectively.

- **Methodology of measurement and evaluation.** These documents might describe measurement techniques or evaluation models, indicate the appropriate use of these techniques, explore their advantages and disadvantages, or contrast and compare various ways of collecting, quantifying, and analyzing data.

- **Evaluation of programs, projects, and procedures.** When an evaluation report is primarily concerned with the evaluation design, procedures, or instrumentation, it is within the scope of ERIC/TM, regardless of the population or subject area involved. Evaluation reports in which the methodology and instrumentation are secondary to programmatic concerns are not within ERIC/TM's scope. These documents are processed by the clearinghouse responsible for the subject area or population involved.

- **Research design and methodology.** These documents might discuss the selection of an appropriate research design, problems associated with various experimental or quasi-experimental designs, and appropriate research methods. Also appropriate for ERIC/TM are documents on statistical procedures used to analyze research data.

- **Human development.** ERIC/TM is responsible for those areas of human development that do not come under the scope of other clearinghouses. ERIC/TM does not handle documents concerned with the development of infants and young children, the handicapped, or language skills, mathematical reasoning, or moral values.

- **Learning theory.** ERIC/TM is responsible for those aspects of learning theory that are not specific to a population (for example, infants and young children, the handicapped, or disadvantaged) or subject areas that are covered by other clearinghouses (for example, language acquisition or learning social studies concepts).

Needed Improvements

The evolution of information technology and the ever-changing needs of the educational community present real challenges to the ERIC system. The system must be continually evaluated and improved in order to stay current and relevant. Issues that now confront ERIC are discussed in two recent reports: *Final Summary Report of the ERIC Redesign Meeting* (Johnson, 1986) and *ERIC in its Third Decade* (Bencivenga, 1986). Several issues are identified in these reports, including needs for:

- serving a wider audience within the educational community,

- expanding dissemination activities for this audience,

- collaborating more closely with existing systems and networks, and

- controlling quality.

Each of these concerns is described.

Serving a Wider Audience

One concern with the operation of ERIC is an overly narrow focus on educational researchers as the target audience. Greenwood and Weiler (1972) have identified an expanded audience for ERIC information, including decisionmakers, teachers, practitioner specialists, and other disseminators, as well as basic and applied researchers. Nowhere is the need for an expanded audience more critical than in the area of tests, measurement, and evaluation. Educational improvements can only be achieved if methodological tools are taken out of the laboratory and applied directly to educational practice and policy.

Audiences for ERIC/TM products include:

Researchers

The first audience of concern to ERIC/TM is educational researchers who specialize in developing and applying measurement and evaluation methodology. The information needs of this group have been relatively well served by ERIC/TM and by a number of journals dedicated to test and measurement research (for example, *Journal of Educational Measurement, Applied Psychological Measurement, Journal of Education Statistics, Psychometrika*).

State and Federal Policymakers

A second audience for ERIC/TM products consists of federal and state officials who are involved in setting educational policy. This audience differs from local decisionmakers who have somewhat more immediate concerns and impact on educational practice. State Education Agency and federal Department of Education officials are key members of this audience.

Local Decisionmakers

Officials who set policy for individual schools and districts have information needs that are somewhat distinct from those of state and federal policymakers. Local decisionmakers include superintendents, school board members, principals,

and in higher education, college or university presidents. The school board associations and some superintendents' groups are examples of organizations representing this constituency.

Practitioners

Teachers who implement particular curricular or testing programs have still different information needs. Teachers need to know more about how to interpret test scores and how to communicate test results to students and parents. The National Education Association and the American Federation of Teachers are examples of organizations representing this audience.

Curriculum and Test Developers

Another target audience for ERIC/TM is organizations and individuals who develop test materials. The National Association of Test Developers (NATD) and the Association of State Assessment Programs are examples of this audience.

Consumers

Consumers of educational programs, that is, taxpayers and parents as well as students themselves, constitute a final audience for ERIC/TM. This group is generally less organized in comparison to other ERIC/TM audiences. Groups such as FAIR TEST represent one segment of measurement consumers. Parents represent another.

Expanding Dissemination Activities

A second concern in operating ERIC is the need to expand dissemination. The need for aggressive dissemination activities is not new. In 1963, the President's Science Advisory Committee explained a distinction between a simple repository and the view of a clearinghouse that underlies AIR's approach. The committee said:

> The . . . depository is primarily a clearinghouse for documents; in general, it does not try to glean information from the documents it handles, but merely provides appropriate documents to its users. But retrieval of documents is not the same as retrieval of information. . . To retrieve information, as opposed to documents, the technical community has devised the specialized data and information center.
>
> A specialized information center makes it its business to know everything that is being published in a given field . . . it collates and reviews the data, and provides its subscribers with regularly issued compilations of critical reviews, specialized bibliographies, and other such tools. Its input is the output of the central depository.

ERIC clearinghouses should play the role of information broker. In addition to acquiring documents, clearinghouses should play an active role in transforming that information to a form others can use.

Collaborating More Closely with Existing Systems

Another operational issue that the clearinghouse contractors must address is how best to increase the effectiveness of the ERIC system within the limits of constrained federal resources. The clearinghouses must coordinate closely with existing groups and systems in order:

- to extend their effectiveness in gathering relevant documents,
- to extend their effectiveness in disseminating information analysis products,

- to avoid costly duplication of efforts.

ERIC needs to multiply federal dollars through collaboration with existing groups and systems.

Quality Control

A final operational issue for ERIC/TM and the ERIC system as a whole is quality control. The willingness of potential users to invest their time and resources to obtain ERIC information is a direct function of the quality of the information that they come to expect. Too often individuals conduct a search only to find important documents are not in the database. ERIC/TM must be vigilant in selecting documents to weed out irrelevant or technically flawed material. Each selected document must be accurately abstracted and indexed so that users can quickly determine if it is relevant to their needs. Information analysis products must be successful in meeting their intended objectives.

Changes in ERIC/TM

As a result of a contract competition, the ERIC Clearinghouse on Tests, Measurement, and Evaluation was transferred from the Educational Testing Service to the American Institutes for Research in January 1988. ETS was the first contractor and it managed the clearinghouse for 18 years.

With new management and staff, AIR is building on the work of ETS and has established the following goals for ERIC/TM:

1) improved document acquisition and processing. ERIC/TM is meeting this goal by:

- acquiring relevant documents more aggressively,
- processing the acquired documents faster,
- developing more informative and helpful abstracts, and
- having experts in measurement and evaluation oversee operations more closely.

2) better quality and more relevant products. ERIC/TM is meeting this goal by:

- establishing an active advisory board with broader representation,
- developing targeted products for more audiences,
- emphasizing the needs of practitioners and policy makers, and
- incorporating more peer review.

3) improved dissemination of information. ERIC/TM is meeting this goal by:

- utilizing existing networks better, and

- establishing a network of ERIC affiliates.

Document Acquisition

Acquisition is the critical first step in building the database. ERIC/TM uses six approaches to gathering documents for consideration for inclusion in the ERIC system:

1. Standing Acquisition Arrangements -- ongoing agreements with various organizations and conference coordinators in which they automatically send documents for ERIC review. ERIC/TM is constantly seeking to add more organizations to the list of organizations with standing acquisition arrangements.

2. Monitoring programs of meetings -- ERIC/TM examines these programs to identify papers potentially within the scope of interest and contact appropriate parties.

3. Monitoring newsletters and journals -- Newsletters from state departments of education, research centers, professional organizations, and proprietary organizations frequently contain references to new reports and releases appropriate for processing by ERIC/TM.

4. Bibliographies in documents and journals -- ERIC/TM examines bibliographies, references, and notes in reports to identify items of potential interest to RIE.

5. Unsolicited documents -- ERIC/TM encourages individuals to submit documents for ERIC/TM review by stating desires in correspondence, brochures, and announcements.

6. Journal subscriptions -- ERIC/TM subscribes to 28 journals in the areas of testing, evaluation, research, and learning theory. Due to funding limitations, coverage of these journals is incomplete. Most of the articles in seven journals are abstracted for CIJE. Selection of articles for the other journals is based on the articles contribution of substantive new material to the body of education information, it relationship to the field of education, and its comprehensiveness. Book reviews, editorials, letters to the editor and the like are not normally selected. In 1988, ERIC/TM added three journals to its processing list: Applied Psychological Measurement (APM),

Evaluation Practice, and Applied Measurement in Education. Past thematic issues of APM were also processed.

Details of document acquisition can be found in Hannaman (1989).

Selection of documents

All documents ERIC/TM acquire for consideration for inclusion in RIE are evaluated using high standards of quality. These standards, which are described in Eissenberg (1989), include:

- technical adequacy,
- contribution to knowledge and significance,
- relevance,
- new applications of knowledge and innovative practices,
- effectiveness of presentation and thoroughness of reporting,
- responsiveness to current priorities,
- timeliness,
- authority of author, source, or sponsor, and
- comprehensiveness.

Journal articles are evaluated for their relationship to the field of education and comprehensiveness as an article (due to funding limitations, book reviews, editorials, letters to the editor and the like are not normally selected.)

Acquisitions are reviewed by the Review Coordinator and the Director. As a check for inter-reviewer consistency, meetings are held periodically to review selection decisions. Additionally, ERIC/TM sends 10% to 20% of the documents out for external review and compares these results with its internal evaluations. The results of two such evaluations can be found in Eissenberg and Rudner (1988) and Eissenberg (1989).

Quality of abstracts and indexing

While virtually everyone who has ever written a paper has prepared an abstract, there is a science and art to abstracting that is well recognized among information scientists.

The field of abstracting makes a distinction between informative abstracts and indicative abstracts. An informative abstract summarizes the information that is in the

report. An indicative abstract states what the report is about, but it doesn't provide conclusions. Consider, for example, the following abstract;

> "A biochemistry examination administered to 114 dental students consisted of 20 items that measured knowledge and 18 items that measured either comprehension or application. Each item was written with five choices, half the class being presented the original version, half a content-similar that included three choices."

This is neither fish nor fowl. This starts as an informative abstract providing specific details of the study and ends almost as an indicative abstract implying what is in the paper. It is not helpful since it does not tell us whether student performance varied as a result of item format.

The majority of ERIC Clearinghouses hire staff to serve as abstractors and indexers. The theory is that these individuals are experts within the scope of the clearinghouse and that they can learn abstracting. The practice is quite different. Abstractors and Indexers tend to be master's level graduate students with little expertise in the clearinghouse field. Once they master the art and science of abstracting they tend to leave the clearinghouse for better incomes as professional abstractors. As a result, clearinghouses have a problem with staff turnover and tend to spend a great deal of time training abstractors (Erickson, 1986). Training abstractors is an area clearinghouses are not equipped to do and do not do well.

ERIC/TM is unique among ERIC Clearinghouses in that it now uses an outside professional abstracting firm. Herner and Company, one of the oldest library and information science consulting firms in the country, supervises abstractors and implement rigorous quality control procedures. Herner and Company has abstracted over 2,000,000 items since its founding. They are quite familiar with the ERIC system as they conducted some of the research upon which CIJE is based. As abstractors for the American Psychological Association, they are familiar with abstracting documents in measurement and technical fields.

The following measures are intended to ensure the highest possible quality of abstracting for ERIC/TM:

- Use only abstractors with at least 5 years of experience in:
  - preparing informative abstracts,
  - editing abstracts to conform with the American National Standards Institution (ANSI) standards, and

- indexing based on Thesauri such as the ERIC Thesaurus of Descriptors.

- Sequentially evaluate all abstracts and indexes to detect and remedy errors and to identify and remedy recurring patterns of errors arising from shortcomings or misunderstandings.

- Perform computer spelling verification of all abstracts and index records.

- Examine all records through a computer-based diagnostic program that checks for correct field tags, correct field lengths, correct data types (e.g., numeric data in a year field), and total number of words.

- Have a human proofread and correct spelling-verified and field-diagnosed records to correct undetected syntactic and field entry errors.

Advisory Board

The National Advisory Board provides professional subject guidance and counsel on the direction of the clearinghouse programs, scope, document selection criteria, information analysis topics, and matters concerning the dissemination of educational information. The advisory board

- evaluates potential information analysis products (IAPs) and set priorities among alternatives,

- evaluates the quality of the IAPs,

- reviews progress in processing documents for RIE and CIJE and evaluate effectiveness in identifying, selecting, and abstracting relevant materials, and

- discusses long-range objectives for the operation of the clearinghouse.

ERIC/TM has established a proactive advisory board representing a variety of organizations and a variety of information needs. Specifically, the board representative of basic researchers, state level policy makers, local level policy makers, teachers,

program planners, consumer advocates, education writers, and test publishers. While ERIC/TM has extensive contact with the research community and teachers, there is a need for representation from these groups on the Advisory Board.

The Advisory Board members are brought to ERIC/TM for an annual meeting. Prior to the meeting, subgroups of two advisors are asked to review IAPs, abstracts, and other products. These individuals lead subcommittee meetings during lunch.

Product Line

ERIC/TM is trying to establish a clearinghouse that is truly an information center and not just a simple repository of documents. Toward that end, ERIC/TM has established a product line featuring the following:

- References on Disk - Cumulative indices of Journal of Educational Measurement, Educational Measurement, Journal of Educational Statistics, Psychometrika, American Educational Research Journal, Review of Educational Research on diskette along with descriptors and search software.

- Monographs -- Clearinghouse sponsored publications such as research reviews, papers summarizing a given topic, state of the art papers, and guides to the measurement literature. This year ERIC/TM is working with the Buros Institute to prepare a guide to understanding district level test scores and with the Lawyers Committee for Civil Rights Under Law to prepare a popular piece on legal rights with regard to test and evaluation information.

- Digests - short, two page, documents which synthesize various test, measurement and evaluation topics and are targeted to various audiences. Through direct mail, online systems, as well as contacts with publisher's representatives, the National Diffusion Network, journal and newsletter publishers, and the Education Writer's Association, Digests are widely distributed.

- Highlights - These are bibliographies and abstracts on hot topics in measurement.

Quality of Information Analysis Products

An extensive needs assessment is conducted to identify potential topics for clearinghouse information analysis products. The following input is considered:

- advisory board member recommendations,
- user requests for information,
- analysis of RIE and CIJE to identify trends and issues,
- solicitation for topics from the field,
- assessment of topics at professional meetings and in newsletters and periodicals,
- priorities of the Department of Education, and
- formal and informal contacts with the field.

Each year ERIC/TM develops a proposed list of products for the advisory board to consider. ERIC/TM then sends the list of products to Central ERIC for approval.

In developing every product, ERIC/TM follows the process model of document design. Authors for the products are selected based on a review of recommendations from the advisory board, review of the literature, consultation with other organizations, external recommendations, and AIR's own experiences.

Once products are developed, they undergo an extensive peer and audience review. Input from teachers, school administrators, and other school-based personnel as well as the measurement research community.

On an annual basis, the products are reviewed by the advisory board. As with the other reviewers, the advisory board will evaluate products for timeliness, significance, accuracy, and appropriateness for the intended audience.

ERIC/TM Affiliates

ERIC/TM is establishing a broad network of individual affiliates. They help us review acquisitions, prepare documents, evaluative clearinghouse products, and locate documents and other data sources. ERIC/TM is looking for additional volunteers to serve as affiliates.

Collaborative Activities

As many reviewers of ERIC have noted, to be most useful, clearinghouses must capitalize on existing resources (Plank, 1986; Bencivenga, 1987). ERIC/TM is working collaboratively with different organizations and individuals to aid in

- acquiring documents
- preparing materials
- disseminating information, and
- providing feedback.

Concluding remarks

The ERIC Clearinghouse on Tests, Measurement, and Evaluation (ERIC/TM) has acquired, reviewed, and processed more than 20,000 journal articles, conference papers, reports, and other papers over the past 22 years. On an annual basis, ERIC/TM is now producing 14-16 literature syntheses per year. As part of the larger ERIC system, ERIC/TM has become a major resource for policy makers, program planners, researchers, teachers, and others. Over 3,000 organization provide access to ERIC/TM products.

ERIC does not optimally serve the measurement community. Individuals frequently conduct ERIC searches only to find that key papers that should be in the system are not there. While ERIC/TM has access to much of the literature pertaining to tests, measurement, and evaluation, very little has been synthesized or transformed into tools serving different audiences.

In order to better serve policy makers, program planners, researchers, teachers, and others, ERIC/TM needs to involve more organizations and more individuals. Higher quality and more relevant documents need to be obtained from authors and added to the ERIC database. Information that is common knowledge for some audiences needs to be transformed into information that is useful for other audiences. Existing dissemination channels that are effectively communicating with their audiences need to be provided with high quality targeted information. While ERIC/TM is establishing a structure to enable these activities, the success of ERIC/TM ultimately relies on the cooperation and involvement of the measurement community.

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